(No Model.)

J. N. STEIN.

CAR REPLACER.

No. 493,308. Patented Mar. 14, 1893.

FIG. 1.

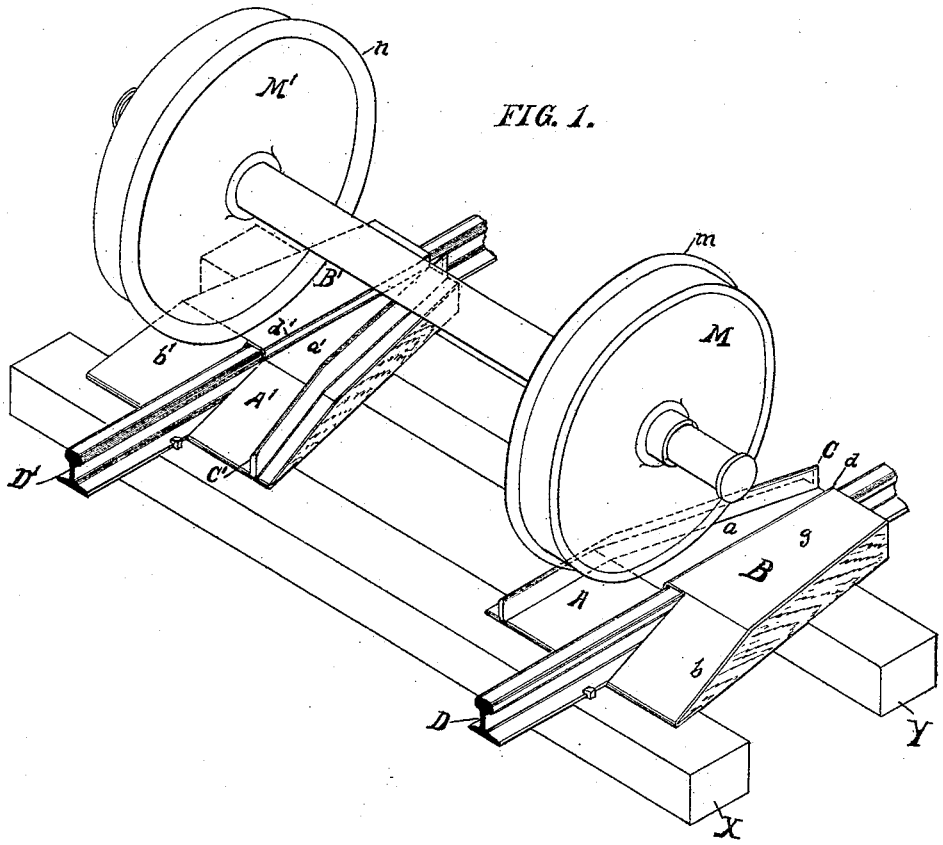
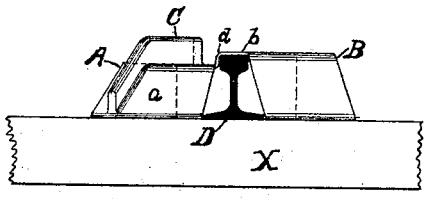


FIG. 2.



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JOSEPH N. STEIN, OF FORT WAYNE, INDIANA.

CAR-REPLACER.

SPECIFICATION forming part of Letters Patent No. 493,308, dated March 14, 1893.

Application filed August 20, 1892. Serial No. 443,569. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH N. STEIN, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Portable Frogs or Car-Replacers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in portable frogs or car-replacers.

In the car-replacers now in use, great difficulty and inconvenience are experienced in securely clamping and connecting the bottom parts of the device, on opposite sides of the rail, in such a manner as to withstand the heavy strain of a derailed truck, without displacement by the tipping or spreading of the device. The inconvenience of connecting said parts of the car-replacer by the usual clamping devices is more especially experienced in the winter season when the ground is frozen hard.

The object, therefore, of my invention is to provide a strong, portable, substantial and convenient car-replacer which is readily adjusted and secured in position without the aid of clamping or connecting devices of any description and adapted to so fit over the railway rail as to be rigidly held in position by the rail itself, under the heaviest strain required of it, thereby avoiding the necessity of excavating beneath the track.

My improvement is also so arranged as to readily replace the trucks of a derailed engine or any number of cars, from their position upon either side of the rail without requiring the resetting of my improvement.

My invention consists in the novel construction and combination of the several parts as will be hereinafter set forth and particularly pointed out in the claim.

The object of my invention is accomplished by the mechanism illustrated in the accompanying drawings forming part of this specification, in which similar letters indicate corresponding parts in both the views.

Figure 1 is a view in perspective of my improvement in position on each rail of a railway track, with a derailed car truck mounted thereon in the act of being replaced. Fig. 2 is a rear end view of my invention in position for use, showing the manner in which it is braced and secured against tipping and lateral displacement by its bearing against the top and bottom or foot of the rail.

My invention consists simply in the frog A united at the top to the shoe B in the manner hereinafter described, and is so arranged that the said frog is always placed, when in position, upon the inner side of the rail, with the shoe B in all cases on the out side of the rail.

The frog A, of suitable size, strength and material, preferably of hard wood, is suitably beveled to a proper incline at its front end, its thickness throughout being less than the height of the rail D. The upper surface of the frog A is then preferably covered with a half inch steel plate *a*, which is so folded upon itself as to form a strong, firm, and inflexible flange C, preferably about three inches in height, near to and parallel with the outer edge of said frog, so arranged as to leave only a space suitable for the flange *m* of the car wheel M between the front end of flange C and the offset *d*. The inclined portion of frog A is further strengthened by the plate *a* which overlaps the front end thereof and covers a proper part of the bottom of said inclined portion, preferably such portion as rests on the tie *x*.

The shoe B, of uniform width throughout, is of equal length with the frog A, and is similarly beveled or inclined at its front end, but its thickness is equal to the height of the rail D, as seen in Fig. 1. The upper surface of the shoe B is also covered by a half inch steel plate *b*, which also strengthens the inclined part of the shoe B by overlapping the end thereof and covering a suitable portion of the bottom thereof as seen in Fig. 1. That part of the plate *b* which covers the upper horizontal surface of the shoe B, extends beyond the inner surface of said shoe about the width of the rail D, whence it forms an offset *d* and is firmly secured to the plate *a* in any proper manner.

The inner edges of the frog A and of the shoe B are properly beveled to snugly fit over the foot of the rail D, while the top of said

rail closely fits between the offset *d* and the shoe B, as seen in Fig. 2.

Though the two parts of my invention, thus described, can each be covered by a separate steel plate and then securely riveted together, yet I preferably construct the plates *a* and *b* as one plate, for greater strength, economy and convenience. The frog A and the shoe B, thus covered, strengthened, and connected by the steel plates *a* and *b*, but preferably constructed as one plate, form one strong, substantial and convenient device, which is adapted to so fit over the rail D as to be secure against tipping or displacement by its bearing against the top and foot of said rail, without the aid of clamping devices or other connection below the rail D.

The manner of using and the mode of operation of my improvement thus described are as follows: When a car or car truck has been derailed, but with its wheels still resting upon some portion of the ties or road-bed, and it is desired to replace it upon the track, my invention, which is arranged in two forms adapted for use on both the right and left rails of the track, is adjusted in position upon either or both rails and in front of the wheels to be replaced, as shown in Fig. 1, with the two parts impinging on the top and foot of the rail D as seen in Fig. 2, thus rigidly securing it in place. When the wheel M is then started up the incline of the frog A, the flange *m* of said wheel will constantly impinge on the flange C, the wheel M′ at the same time going up the incline of shoe B′, which impinging of the wheel M on the flange C will gradually draw the wheels M and M′ nearer to the rails D and D′, until when the said wheels reach the forward end of my improvement, the flange *m* of the wheel M will be crowded against the offset *d*, thereby forcing the flange *n* of the wheel M′ to the inside of offset *d*, when both wheels will be in position on the track. The said wheels would be replaced upon the track in like manner, should the position of the said wheels relatively to the track, be reversed, *i. e.* should the wheel M be upon the outside of rail D and the wheel M′ be upon the inside of the rail D′.

Though the strain upon my car replacer, by the impingement of the wheel M against the flange C, is very strong, and has a tendency to spread or separate its parts, and also to tip the same, yet the strength of the steel plates is sufficient to resist the strain, and the bearing of the frog A and the shoe B against the foot and top of the rail D prevents the possibility of displacement by tipping or overturning.

It is evident that any number of derailed cars can in like manner be replaced without the necessity of resetting my improvement; and also that a whole train can readily pass over my invention, when in position, without the least danger, inconvenience or displacement thereof.

I am aware that a variety of portable frogs and car replacers are in use, but no car replacer has ever been invented, of which I am aware, which does away with inconvenient and unsafe clamping and fastening devices of all kinds, and which is at all times and in all seasons readily adjusted and safely and efficiently employed, in the manner above set forth and described.

What I claim, therefore, as my invention, and desire to secure by Letters Patent, is—

A portable frog or car-replacer comprising a frog A having an inclined face and provided with a longitudinal guiding flange C adapted to force the impinging derailed car wheel into position upon the track, and a shoe B having an inclined face *b*, and a horizontal face *g* extending over and resting upon the tread of the rail and united to the frog A by the offset *d*, all substantially as set forth and described.

Signed by me this 17th day of August, 1892.

JOSEPH N. STEIN.

Witnesses:
C. J. McLAIN,
P. L. ZORBAUGH.